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10/668,264	09/24/2003	Junichi Hakamada	25714	7863

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EXAMINER	
WOODS, ERIC V	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,264	HAKAMADA, JUNICHI	
	Examiner	Art Unit	
	Eric V Woods	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20041229*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The term "expressing" in claims 1, 7, and 13 is a relative term that renders the claim indefinite. The term "expressing" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. That is, this term is not the correct, idiomatic English term and it is unclear how such a parameter would "express" a feature of the font character. To overcome this rejection

under 35 U.S.C. 112, second paragraph, applicant must change this term – examiner recommends, "representing".

The dependent claims 2-6, 8-12, and 14-18 are rejected for failing to correct the deficiencies of their parent claim(s).

6. Claims 1, 7, and 13 recite the limitation "the feature parameter" in the second-to-last and last clauses of the claim. This language renders the claim indefinite. That is, it is unclear which parameters are being referred to, as the user is supposed to somehow indicate their preference of parameter(s). However, this language is extremely confusing, since "the feature parameter" recited could be either user-inputted or generated by the genetic algorithm section.

The dependent claims 2-6, 8-12, and 14-18 are rejected for failing to correct the deficiencies of their parent claim(s).

7. Claims 1, 7, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: user input section and feature parameter setting section. Clearly, according to applicant's specification, the user somehow enters a character for the software to extract the "feature parameter" by using, for example, a scanner or tablet capable of recognizing handwriting input. There is no provision for the initial entry of such characters in these claims (specification pg. 10, lines 5-20). Clearly, there must be some kind of initial input from the user indicating the desired font, etc.

Clearly, claims 2, 4, 6, 8, 10, 12, 14, 16, and 18 do limit their parent claims with the input device, and thus are not subject to this last rejection under 35 U.S.C. 112.

The dependent claims 3, 5, 9, 11, 15, and 17 are rejected for failing to correct the deficiencies of their parent claim(s).

8. Claims 3-4, 9-10, and 15-16 recite the limitation "the feature parameters" in the last two lines. There is insufficient antecedent basis for this limitation in the claim.

Claims 5-6, 11-12, and 17-18 are rejected as not correcting the deficiencies of their parent claim(s).

9. Claims 3-4, 9-10, and 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: how the genetic algorithm processing obtains "two of the feature parameters selected from the feature parameter". Obviously, some kind of processing must be performed to obtain two parameters from one, or multiple features must be extracted by the system and retained to provide these.

Claims 5-6, 11-12, and 17-18 are rejected as not correcting the deficiencies of their parent claim(s).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1, 7, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al (AU 9952594)('Browne')(pub date April 6, 2000). [Claims 1-6 recite an apparatus for performing genetic algorithm processing, claims 7-12 recite a computer program product for performing these tasks – [since the genetic processing system runs on a computer, it is *prima facie* obvious to use software], and claims 13-18 recite a method for performing the same tasks. Therefore, any rejections valid on claims 1-6 are equally valid and binding, without further comment, on claims 7-12 and 13-18, as substituting the words "method" and "computer program product" for "system" do not change the scope of the claims whatsoever.]

As to claims 1, 7, and 13,

An apparatus for font generation comprising:

-A basic font storage section storing a font character of a basic font for generating a font character; (Browne pg. 1 (specification), lines 16-20, and pg. 2, lines 20-23)

-A feature parameter storage section storing a feature parameter expressing a feature of the font character; (Browne pg. 2 (spec), lines 3-6, the "subjective characteristic" is comparable to the 'feature parameter' recited by applicant, page 3, lines 1-12, and Figs. 1-2, where user clearly modifies character to have a certain appearance; this clearly requires that the computer system of Browne, shown in Fig. 6 on which this program runs have some storage mechanism for the recited feature parameter or subjective characteristic)

-A font generation section configured to generate new font characters by deforming the font character of the basic font based on the plural feature parameters generated in this

genetic algorithm processing section; and (Browne Figs. 1 and 2, 3:13-25 where clearly the system / program of Browne performs the generation of new version of existing font characters; 6:8-22 discloses genetic algorithms used for the method shown in Fig. 5. Clearly, new characters are generated as per Figs. 1 and 2, and plural characteristics are shown in the method illustrated in Fig. 5, and the genetic algorithm section is used to evolve the new parameters to be shown to the user each time)

-A display unit displaying the new font characters generated in the font generation section; wherein (Browne Fig. 6, clearly showing a video display 114, where such results would be displayed; clearly, as shown in Figs. 1 and 2, the characters would be shown to the user so that the user would see the results of the user's choice)

-The genetic algorithm processing section determines the feature parameters according to the preferences of a user based on a font character selected by the user from among the new font characters displayed on the display unit, (Browne specification 5:10-18)

-The font generation section creates a font based on the feature parameter according to the preferences of the user determined by the genetic algorithm processing section. (Browne 5:10-23, where the font is created / calculated at the end; Browne 6:8-22 discloses genetic algorithms for the purpose, as illustrated in the method of Fig. 5).

Reference Browne clearly discloses all the limitations of this claim of the instant application. As illustrated above, the Browne reference teaches a system that evolves a font according to user preferences based on user-selected parameters (Figs. 1 and 2) and outputs a font (see Fig. 5). Clearly, the Browne reference is analogous art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Browne reference to utilize only one parameter instead of multiple parameters as shown in Fig. 5. It would be *prima facie* obvious that the system of Browne would show characters after each parameter is modified or selected as shown in Fig. 5, because as Browne clearly shows in Figs. 1 and 2, a different sequence of selections would change the output results. Further, both references use genetic algorithms to perform this task.

Applicant's invention only serves to automate the process – e.g. the user would indicate through some methodology the one desired parameter to alter, and the results would be shown in the screen. Under In re Venner, 120 USPQ 192 (CCPA 1958), "...it is well settled that is "invention" to broadly provide a mechanical or automatic means to replace manual activity which has accomplished the same result" (In re Rundell, 18 CCPA 1290, 48 F.2d 958, 9 USPQ 220). Clearly, applicant's improvement over Browne is at best incremental and this improvement is **not** patentable.

Finally, Browne discloses in claim 4 (p. 10, specification) that all the fonts bred over a generation are summed by the algorithm to provide a fitness function to determine said selection – that is, Browne is already claiming that which is recited by applicant, a single-valued parameter.

11. Claims 2, 8, and 14 are rejected under 35 U.S.C. 103(a) as unpatentable over Browne in view of Syeda-Mahmood et al (US 6,621,941 B1)('Syeda').

As to claims 2, 8, and 14,

The apparatus of claim 1, further comprising:

-An input unit scanning a character handwritten by the user; and (Syeda 1:20-67, clearly disclosing scanning of handwritten documents or sections thereof, and Fig. 1 shows a section of document before it is processed, and portions of the processing are illustrated in Figs. 5A and 5B)

-A character feature extraction section configured to recognize a character from character data scanned by the input unit, to compare the recognized character and the font character of the basic font, and to extract a feature of the handwritten character as the feature parameter. (*Prima facie*, the extraction of text (Figs. 1, 5A, 5B, and 15) shows that the characters are recognized by the system (e.g. normal full-text optical character recognition (OCR) as taught by Syeda in 1:55-67). Clearly, the system of Syeda recognizes the characters.)(Syeda clearly teaches a "Feature Extraction Module" in 3:64-67 and 4:1-8, with the operation of that system covered in 5:5-22. Clearly, Syeda teaches in 8:25-40 the extraction of features from the characters based on affine curve systems to enable recognition of the characters. Further, clearly certain details of the character are measured – that is, Syeda teaches that the hashed image base points are used to compute candidate poses (e.g. characters). As such, the variations are obviously measured, as the features are extracted and matched to candidate poses (see Fig. 5B)).

Reference Browne does not explicitly teach this limitation. Reference Syeda, as discussed above, clearly teaches all the additional limitations of this claim. The system of Syeda recognizes handwriting and measures features, amongst other capabilities. Clearly, the process of altering a font via chosen parameters on the screen would be

somewhat time-consuming, and adding the ability of the user to input a desired character representative of a desired end point – e.g. desired end character shape as a starting point would greatly simplify the operations in Browne from the point of view of the user of such a system. Clearly, Syeda can put text into another program (since it teaches OCR and grouping of words) that could then alter the text as per the system of Browne. Thusly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the font evolution system of Browne with the OCR and handwriting input of Syeda via obvious modification so that the starting point for the evolution of a font would be based on parameters extracted by the handwriting recognition portion of the claimed feature extraction section.

12. Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as unpatentable over Browne in view of Sims (Sims, Karl – "Artificial Evolution for Computer Graphics").

As to claims 3, 9, and 15:

The apparatus of claim 1, wherein

-The genetic algorithm processing section generates plural new feature parameters by performing genetic algorithm processing including crossover and mutation on two of the feature parameters selected from the feature parameter.

Reference Browne teaches implicitly all the limitations of the above-recited claim. Browne teaches genetic algorithms of the general type in Sims, and states that font parameters are equated with "genes" which are then "cross-bred" (pg. 8, lines 7-22). Reference Sims teaches crossovers (section 3.3, page 321) and mutation (section 3.2, page 321), which are the two recited genetic operations in the above claims. Clearly, it

would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the font evolution of Browne with the algorithms of Sims, as Browne clearly teaches the use of these algorithms without being explicit about how they work.

13. Claims 4, 10, and 16 are rejected under 35 U.S.C. 103(a) as unpatentable over Browne in view of Syeda as applied to claim 3 above, and further in view of Sims (Sims, Karl – "Artificial Evolution for Computer Graphics").

As to claims 4, 10, and 16:

The apparatus of claim 1, wherein

-The genetic algorithm processing section generates plural new feature parameters by performing genetic algorithm processing including crossover and mutation on two of the feature parameters selected from the feature parameter.

Reference Browne teaches implicitly all the limitations of the above-recited claim. Reference Syeda does not teach this limitation. Browne teaches genetic algorithms of the general type in Sims, and states that font parameters are equated with "genes" which are then "cross-bred" (pg. 8, lines 7-22). Reference Sims teaches crossovers (section 3.3, page 321) and mutation (section 3.2, page 321), which are the two recited genetic operations in the above claims. Clearly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the font evolution of Browne and parameters of Syeda with the algorithms of Sims, as Browne clearly teaches the use of these algorithms without being explicit about how they work,

and the reasons for inclusion of Syeda are incorporated by reference from the rejection to claim 3.

Allowable Subject Matter

14. Claims 5-6, 11-12, and 17-18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric V Woods whose telephone number is 703-305-0263. The examiner can normally be reached on M-F 7:30-5:00 alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Woods December 29, 2004

PRIMARY EXAMINER